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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,040	07/10/2001	Daniel L. Moore	18235-05005	9909

20306 7590 09/27/2005

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EXAMINER	
WILLIAMS, LAWRENCE B	
ART UNIT	PAPER NUMBER
2638	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/903,040	MOORE, DANIEL L.	
	Examiner	Art Unit	
	Lawrence B Williams	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12, 15, 17-23, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 5,784,597) in view of Nuber et al. (US Patent 5,703,877).

(1) With regard to claim 1, Litwin, Jr. et al. discloses in Fig. 1, a method to synchronize transmission of a plurality of data between a first source device (14) and a destination device (16, 18), said method comprising: transmitting said plurality of data in a first frequency band (data carriers, 28) from said first source device (14); receiving said plurality of data into a buffer at said destination device (16, 18) Though Litwin, Jr. et al. is silent as to a buffer, a buffer for the retaining of data would be inherent in the invention), transmitting a plurality of synchronization pulses in a second frequency band (sync carrier, 30) from a second source device (24), wherein said second frequency band is substantially different from said first frequency band (col. 3, lines 37-44) and receiving said plurality of synchronization pulses at said destination device.

Litwin, Jr. et al. does not disclose receiving a sequence number at said destination device to determine when said destination device will access said plurality of data from said buffer.

However, Nuber et al. discloses receiving a sequence number (Time-Stamp) at a destination device to determine when the destination device will access a plurality of data from a buffer (col. 2, lines 20-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data (col. 4, lines 12-25).

(2) With regard to claim 2, Nuber et al. also discloses the method further comprising extracting a sequence number from the plurality of synchronization pulses received by said destination device to determine when and in which order said destination device access the plurality of data from said buffer (col. 2, lines 20-29). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(3) With regard to claim 3, though Litwin, Jr. et al. also discloses wherein the first source device and the second destination device are connected in a network by a power line (abstract).

(4) With regard to claim 4, Litwin, Jr. et al. also discloses wherein said first frequency band is at a higher frequency than said second frequency band (col. 4, lines 16-28).

(5) With regard to claim 5, Litwin, Jr. et al. also discloses wherein the first frequency band is at a lower frequency than the second frequency band (col. 4, lines 16-28).

(6) With regard to claim 6, Litwin, Jr. et al. also discloses in Fig. 1, wherein the first source device and second source device are the same device (master, 14 comprises clock sync circuit, 24).

(7) With regard to claim 7, Litwin, Jr. et al. et al. also discloses wherein the plurality of synchronization pulses adjusts a clock signal used by the destination device (col. 3, line 53- col. 4, line 15).

(8) With regard to claim 8, Nuber et al. also discloses in Fig. 3, wherein the plurality of synchronization pulses adjusts a phase-locked-loop (PLL) in the destination device. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(9) With regard to claim 9, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses is transmitted to said destination device by a transmission media selected from a group consisting of: a pair of wires, a double pair of wires, a coaxial cable, radio transmission, infrared transmission, one optical fiber, and two optical fibers (col. 2, line 67- col. 3, line 6).

(10) With regard to claim 10, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses and the plurality of data are transmitted using one modulation method (col. 4, lines 16-18).

(11) With regard to claim 11, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses and plurality of data are transmitted using orthogonal differential frequency (OFDM) modulation (col. 4, lines 16-19).

(12) With regard to claim 12, claim 12 inherits all limitations of claim 10 above. Furthermore, Litwin, Jr. et al. also discloses wherein said plurality of synchronization pulses and said plurality of multimedia data are transmitted using a modulation method selected

from a group of modulation methods consisting of: QAM, CODFM, DFM, PSK, BPSK, or QPSK (col. 4, lines 16-18).

(13) With regard to claim 15, Nuber et al. also discloses wherein the plurality of data has an embedded sequence number (col. 8, lines 7-44). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(14) With regard to claim 17, claim 17 inherits all limitations of claim 1 above. Furthermore, Litwin, Jr. et al. also discloses wherein the plurality of data includes audio data (col. 3, lines 37-44).

(15) With regard to claim 18, claim 18 discloses limitations similar to those of claims 1 and 2 above. Therefore, a similar rejection applies.

(16) With regard to claim 19, Litwin, Jr. et al. also teaches in Fig. 1, wherein the first source device and the second destination device are connected in a network by a power line.

(17) With regard to claim 20, With regard to claim 6, Litwin, Jr. et al. also discloses in Fig. 1, wherein the first source device and second source device are the same device (master, 14 comprises clock sync circuit, 24).

(18) With regard to claim 21, Litwin, Jr. et al. also discloses wherein said first frequency band is at a higher frequency than said second frequency band (col. 4, lines 16-28).

(19) With regard to claim 22, Litwin, Jr. et al. also discloses wherein the first frequency band is at a lower frequency than the second frequency band (col. 4, lines 16-28).

(20) With regard to claim 23, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses and the plurality of data are transmitted using one modulation method (col. 4, lines 16-18).

(21) With regard to claim 26, Nuber et al. also discloses wherein said plurality of data has an embedded sequence number, which said destination device can extract to determine when to access said plurality of data from said buffer (col. 8, lines 7-44).

3. Claims 13, 24 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in view of Nuber et al. (US Patent 5,703,877) as applied to claims 1, 18 and 27 above, and in further view of Solum et al. (US 2002/0098798 A1).

(1) With regard to claim 13, claim 13 inherits all limitations of claim 1 above. As noted above, Litwin, Jr. et al. in combination with Nuber et al. disclose all limitations of claim 1 above. They do not however teach wherein the plurality of synchronization pulses is transmitted with a different modulation from a modulation used to transmit the plurality of data.

However, Solum et al. teaches a communication system wherein the plurality of synchronization pulses is transmitted with a different modulation from a modulation used to transmit the plurality of data (pg. 21, paragraph 0260).

Therefore it would have been obvious to one skilled in the art to incorporate the teachings of Solum et al. as a method of optimizing bandwidth used for transporting data (pg. 1, paragraphs 0009-0012).

(2) With regard to claim 24, claim 24 discloses limitations similar to those of claim 13. Therefore, a similar rejection applies.

(3) With regard to claim 40, claim 40 discloses limitations similar to those of claims 24 and 13. Therefore a similar rejection applies.

4. Claims 14, 25 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in view of Nuber et al. (US Patent 5,703,877) as applied to claims 1, 18 and 27 above, and in further view of Mazzali et al. (Optical PPM Generator by Direct-Frequency Shifting).

(1) With regard to claim 14, as noted above Litwin, Jr. et al. in combination with Nuber et al. disclose all limitations of claims 14. They do not however disclose wherein the plurality of synchronization pulses is transmitted without modulation. However, Mazzali et al. teaches synchronization pulses transmitted without modulation (pg. 191).

It would heave been obvious to one skilled in the art to incorporate the scheme of Mazzali et al. as a method of a reliable scheme for pulse position control and detection.

(2) With regard to claim 25, claim 25 discloses limitations similar to those of claim 18. Therefore a similar rejection applies.

(3) With regard to claim 41, claim 41 discloses limitations similar to those of claims 18 and 25 above. Therefore a similar rejection applies.

5. Claims 27-39, 42, 45-46, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in view of Nuber et al. (US Patent 5,703,877).

(1) With regard to claim 27, Litwin Jr. et al. discloses in Fig. 1, a deterministic network

to synchronize transmission of a plurality of data between a first source device (14) and a destination device (16, 18), said deterministic network comprising; a first source (26) device to transmit said plurality of data; a second source device to transmit a plurality of synchronization pulses (24), a destination device to receive said plurality of synchronization pulses (synch carrier, 30), including a buffer to receive said plurality of data (Though Litwin, Jr. et al. is silent as to a buffer, a buffer for the retaining of data would be inherent in the invention), and a first transmission medium (data carriers, 28) to transmit said plurality of data in a first frequency band from said first source device (26) to said destination device, and a second transmission medium (synch carriers, 24) to transmit said plurality of synchronization pulses in a second frequency band from said second source device (24) to said destination device wherein said second frequency is substantially different from said first frequency band (col. 3, lines 33-44). Though Litwin, Jr. et al. does not disclose a controller to calculate a sequence number to determine when said controller will access said plurality of data, he does teach devices a timestamp insertion in the data stream used to determine a rate at which the data will be accessed (col. 1, lines 21-30).

However, Nuber et al. discloses inserting time-stamps into a transport stream to be used by a destination device (decoder) to determine when the destination device will access a plurality of data from a buffer (col.2, lines 20-29).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Chiu et al. as a known method of decoding digital audio data (col. 4, lines 12-25).

(2) With regard to claim 28, Nuber et al. also discloses wherein said destination device determines said sequence number from said plurality of synchronization pulses (col. 2, lines 20-

29). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(3) With regard to claim 29, Litwin, Jr. et al. also discloses in Fig. 1, wherein the first transmission medium and second transmission medium are the same medium. (Both data carriers, 28 and synch carriers, 30 use the powerline, 12).

(4) With regard to claim 30, Litwin, Jr. et al. also discloses wherein the first source device and the second destination device are connected in a network by a power line (abstract).

(5) With regard to claim 31, Litwin, Jr. et al. also discloses in Fig. 1, wherein the first source device and second source device are the same device (master 14, comprises tx/rx, 26 and clock synch circuit, 24).

(6) With regard to claim 32, Litwin, Jr. et al. also discloses wherein said first frequency band is at a higher frequency than said second frequency band (col. 4, lines 16-28).

(7) With regard to claim 33, Litwin, Jr. et al. also discloses wherein the first frequency band is at a lower frequency than the second frequency band (col. 4, lines 16-28).

(8) With regard to claim 34, Litwin, Jr. et al. et al. also discloses wherein the plurality of synchronization pulses adjusts a clock signal used by the destination device (col. 3, line 53- col. 4, line 15).

(9) With regard to claim 35, Nuber et al. also discloses in Fig. 3, wherein the plurality of synchronization pulses adjusts a phase-locked-loop (PLL) in the destination device. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method

as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(10) With regard to claim 36, Litwin, Jr. et al. also discloses in Fig. 1, wherein the plurality of synchronization pulses is transmitted to said destination device by a transmission media selected from a group consisting of: a pair of wires, a double pair of wires, a coaxial cable, radio transmission, infrared transmission, one optical fiber, and two optical fibers (col. 2, line 67-col. 3, line 6).

(11) With regard to claim 37, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses and the plurality of data are transmitted using the same modulation method (col. 4, lines 16-28).

(12) With regard to claim 38, Litwin, Jr. et al. also discloses wherein the plurality of synchronization pulses and plurality of data are transmitted using orthogonal differential frequency (OFDM) modulation (col. 4, lines 16-19).

(13) With regard to claim 39, claim 39 inherits all limitations of claim 27 above. Furthermore, Litwin, Jr. et al. also discloses wherein said plurality of synchronization pulses and said plurality of multimedia data are transmitted using a modulation method selected from a group of modulation methods consisting of: QAM, CODFM, DFM, PSK, BPSK, or QPSK (col. 4, lines 16-28).

(13) With regard to claim 42, Nuber et al. also discloses wherein the plurality of data has an embedded sequence number (col. 8, lines 7-44). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(14) With regard to claim 45, claim 45 inherits all limitations of claim 27 above. Furthermore, Litwin, Jr. et al. also discloses wherein the plurality of data includes audio data (col. 3, lines 37-44).

(15) With regard to claim 46, claim 46 inherits all limitations of claim 27 above. Furthermore, Chui et al. also discloses wherein the plurality of data includes video data (col. 3, lines 37-44).

(16) With regard to claim 49, Nuber et al. also discloses wherein said destination device further includes a detector extracting said sequence number from said plurality of synchronization pulses (col. 4, lines 28-67). It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

6. Claims 16, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in view of Nuber et al. (US Patent 5,703,877) as applied to claims 1, and 27 and further in view of Gous et al. (US Patent 6,763,241 B2).

(1) With regard to claim 16, as noted above Litwin, Jr. et al. in combination with Nuber et al. disclose all limitations of claims 1 and 27 above. They do not however teach wherein the destination device comprises a global positioning satellite (GPS) receiver receiving the plurality of synchronization pulses. However, Gous et al. discloses a destination device comprising a global positioning satellite (GPS) receiver for receiving a plurality of synchronization pulses (abstract).

It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Gous et al. with the invention of Litwin, Jr. et al. in combination with Nuber et al. as a method of insuring proper sampling of data (col. 2, lines 10-21).

(2) With regard to claim 43, claim 43 discloses limitations similar to those disclosed in claim 16. Therefore a similar rejection applies.

7. Claims 44, 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in view of Nuber et al. (US Patent 5,703,877) as applied to claims 27 and further in view of Chiu et al. (US Patent 6,763,241 B2).

(1) With regard to claim 44, as noted above, Litwin, Jr. et al. in combination with Nuber et al. disclose all limitations of claim 27. They do not however disclose wherein the network comprising an error detecting circuit in the destination device (col. 13, lines 25-64).

However Chui et al. discloses wherein the network comprising an error detecting circuit in the destination device (col. 13, lines 25-64).

It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Chui et al. with the combined invention of Litwin, Jr. et al. and Nuber et al. to fully utilize the available bandwidth of a shared cable (col. 3, lines 44-47).

(2) With regard to claim 47, Chiu et al. also discloses in Fig. 1, wherein said first transmission medium and second transmission medium comprise a communication network (col. 3, lines 53-55), even though Chiu et al. is silent as to the first source device and the second source device comprising an audio controller and said destination device comprises one or more speakers coupled to said communication network, he does disclose the communication network

for two-way audio which would inherently require the use of some type of audio controller in the source devices and he also discloses destination devices as video-on-demand, interactive television (col. 5, lines 48-55) which again would inherently include one or more speakers connected to the network. It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Chui et al. with the combined invention of Litwin, Jr. et al. and Nuber et al. to fully utilize the available bandwidth of a shared cable (col. 3, lines 44-47).

(3) With regard to claim 48, claim 48 inherits all limitations of claim 27. Furthermore, Chui et al. discloses wherein the destination device further includes one or more demodulators demodulating said plurality of data and said plurality of synchronization pulses (col. 4, lines 39-40; 50-51). It would have been obvious to one skilled in the art at the time of invention to incorporate the teachings of Chui et al. with the combined invention of Litwin, Jr. et al. and Nuber et al. to fully utilize the available bandwidth of a shared cable (col. 3, lines 44-47).

8. Claims 50-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Litwin, Jr. et al. (US Patent 6,834,091 B2) in combination with Nuber et al. (US Patent 5,703,877) as applied to claims 1 and 7 above, and in further view of Kubista (US Patent 6,721,798 B1).

(1) With regard to claim 50, claim 50 inherits all limitations of claims 1 and 7 above as claim 50 merely discloses a method of the synchronization implemented by a computer. As noted above, Chui et al. in combination with Nuber et al. disclose all limitations of claims 1 and 7. They do not however teach the method implemented by computer. However, Kubista teaches a computer program for handling data transmission within a network. It would have been

obvious to one skilled in the art to that the mechanism or aspect of the invention could be distributed in the form of computer usable medium of instruction in a variety of forms.

(2) With regard to claim 51, claim 51discloses limitations similar to those of claims 50. Therefore a similar rejection applies.

(3) With regard to claim 52, Litwin, Jr. et al. also discloses wherein the second frequency band is higher than the second frequency band (col. 4, lines 16-28).

(4) With regard to claim 53, Nuber et al. also discloses in Fig. 3, wherein at least one of said one or more destination devices comprises a phase-locked-loop (PLL) and said plurality of synchronization pulses adjusts said PLL. It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Nuber et al. to modify the invention of Litwin, Jr. et al. as a known method of decoding digital audio data.

(5) With regard to claim 54, Litwin, Jr. et al. also discloses wherein the plurality of data is selected from a group consisting of audio data, visual data, and audio-visual data (col. 3, lines 40-44).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a.) Kroeger et al. discloses in US Patent 6,549,544 B1 Method and Apparatus for Transmission and Reception of FM In-Band On-Channel Digital Audio Broadcasting.

10. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw
September 24, 2005

EMMANUEL BAYARD
PRIMARY EXAMINER